

Claims

1. Rolling bearing comprising at least one ring provided with raceway and rolling elements to engage said raceway, wherein said ring and raceway comprise a ball bearing steel, said ring and/or rolling elements having a nickel-phosphorus coating characterized in that said coating comprises at least 9% by wt phosphorous.
5. 2. Rolling bearing according to claim 1, wherein said coating comprises at least 70% by wt. Ni and 9-20% by wt. phosphorus.
10. 3. Rolling bearing according to one of the preceding claims, wherein between said bearing steel and the coating an adhesion a layer is provided.
15. 4. Rolling bearing according to claim 3, wherein said layer comprises a nickel-layer.
5. 5. Rolling bearing according to claim 4, wherein said layer has a thickness smaller than 1  $\mu\text{m}$ .
20. 6. Rolling bearing according to one of the preceding claims, wherein said coating has a thickness between 2-30  $\mu\text{m}$ , preferably 10-20  $\mu\text{m}$  and more preferably about 15  $\mu\text{m}$ .
25. 7. Rolling bearing according to one of the preceding claims, wherein said ball bearing steel comprises about 1% by wt. C, 1,5% by wt. Cr and balance Fe.
8. 8. Rolling bearing according to one of the preceding claims, wherein the outer surface of the rolling elements comprises a ceramic material.
30. 9. Rolling bearing according to one of the preceding claims, wherein the outer surface of the rolling elements comprises a low friction coating.
10. 10. Method for producing a rolling bearing comprising at least one ring provided with raceway and rolling element to engage said raceway, wherein said ring and

raceway comprise a ball bearing steel, wherein said ring and/or rolling elements are coated with a nickel-phosphorus coating, characterised in that before coating said elements a striking-layer is provided.

5 11. Method according to claim 10, wherein said striking-layer is electrolytically applied to said elements.

10 12. Method according to claim 10 or 11, wherein said ring and/or rolling element are produced from a ball bearing steel and after hardening and possibly finishing are subjected to a machining step wherein about the same amount of material is removed as is deposited during subsequent depositing of the nickel-phosphorus coating.

15 13. Method according to one of the claims 10-12, wherein said coating comprises chemical deposition.

14. Method according to one of the claims 10-13, wherein the rolling elements are coated and said coating comprises moving of said elements in a bath during coating.

20 15. Method according to one of the claims 10-14, wherein after coating the rolling elements and ring are directly assembled.